

We Claim:

- 1 1. A system for controlling operation of a plurality of computing apparatuses in a  
2 network; each respective computing apparatus of said plurality of computing  
3 apparatuses hosting at least one respective service; the system responding to any said  
4 respective computing apparatus being inoperative by effecting a continuity operation;  
5 said continuity operation including distributing said at least one service hosted by said  
6 inoperative computing apparatus among operating said respective computing  
7 apparatuses in said network; the system comprising:  
8 (a) at least one control unit; said at least one control unit being substantially  
9 embodied in hardware; said at least one control unit being coupled with each said  
10 respective computing apparatus in said network; and  
11 (b) at least one control program; each respective control program of said at least one  
12 control program being substantially embodied in software; said at least one  
13 control program being distributed among at least one of said respective computing  
14 apparatuses in said network;  
15 one of said at least one control unit and said at least one control program effecting  
16 said continuity operation when a respective said computing apparatus becomes an  
17 inoperative computing apparatus.
- 1 2. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 1 wherein said at least one control unit effects said  
3 continuity operation when a respective said computing apparatus becomes an  
4 inoperative computing apparatus; said at least one control program backing up said at  
5 least one control unit; said at least one control program effecting said continuity  
6 operation when said at least one control unit cannot effect said continuity operation.
- 1 3. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 1 wherein said at least one control unit is one control  
3 unit; said one control unit being a substantially autonomous computing unit in

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4 communication with said plurality of computing apparatuses; said control unit  
5 effecting said continuity operation when a respective said computing apparatus  
6 becomes an inoperative computing apparatus; said at least one control program  
7 backing up said control unit; said at least one control program effecting said  
8 continuity operation when said control unit cannot effect said continuity operation.

1 4. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 2 wherein said at least one control program is a plurality  
3 of control programs; each said respective computing apparatus hosting at least one  
4 respective control program of said plurality of control programs.

1 5. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 3 wherein said at least one control program is a plurality  
3 of control programs; each said respective computing apparatus hosting at least one  
4 respective control program of said plurality of control programs.

1 6. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 1 wherein one of said at least one control unit and said at  
3 least one control program effects a recovery operation when said inoperative  
4 computing apparatus becomes an operative computing apparatus; said recovery  
5 operation effecting returning said at least one control program to the respective  
6 computing apparatus from which it was distributed when effecting said continuity  
7 operation.

1 7. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 6 wherein said at least one control unit effects said  
3 recovery operation when said in operative computing apparatus becomes an operative  
4 computing apparatus; said at least one control program backing up said at least one  
5 control unit; said at least one control program effecting said recovery operation when  
6 said at least one control unit cannot effect said recovery operation.

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1 8. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 6 wherein said at least one control unit is one control  
3 unit; said one control unit being a substantially autonomous computing unit in  
4 communication with said plurality of computing apparatuses; said control unit  
5 effecting said recovery operation when said inoperative computing apparatus becomes  
6 an operative computing apparatus; said at least one control program backing up said  
7 control unit; said at least one control program effecting said recovery operation when  
8 said control unit cannot effect said recovery operation.

1 9. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 7 wherein said at least one control program is a plurality  
3 of control programs; each said respective computing apparatus hosting at least one  
4 respective control program of said plurality of control programs.

1 10. A system for controlling operation of a plurality of computing apparatuses in a  
2 network as recited in Claim 8 wherein said at least one control program is a plurality  
3 of control programs; each said respective computing apparatus hosting at least one  
4 respective control program of said plurality of control programs.

1 11. A system for effecting recovery of a network; said network including a plurality of  
2 computing apparatuses; each respective computing apparatus of said plurality of  
3 computing apparatuses hosting at least one respective service; the system comprising:  
4 (a) at least one control unit; said at least one control unit being substantially  
5 embodied in hardware; said at least one control unit being coupled with each said  
6 respective computing apparatus; and  
7 (b) at least one control program; each respective control program of said at least one  
8 control program being substantially embodied in software; said at least one  
9 control program being distributed among at least one of said respective computing  
10 apparatuses;

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11 the system responding to a respective said computing apparatus becoming an  
12 inoperative computing apparatus by effecting a recovery operation; said recovery  
13 operation including distributing said at least one service hosted by said inoperative  
14 computing apparatus as at least one distributed service among operating said  
15 respective computing apparatuses and returning said at least one distributed service to  
16 said inoperative computing apparatus after said inoperative computing apparatus  
17 becomes operative; said at least one control unit and said at least one control program  
18 cooperating to effect said recovery operation.

1 12. A system for effecting recovery of a network as recited in Claim 11 wherein said  
2 cooperating is effected by said at least one control unit effecting said recovery  
3 operation; said at least one control program backing up said at least one control unit;  
4 said at least one control program effecting said recovery operation when said at least  
5 one control unit cannot effect said recovery operation.

1 13. A system for effecting recovery of a network as recited in Claim 11 wherein said at  
2 least one control unit is one control unit; said one control unit being a substantially  
3 autonomous computing unit in communication with said plurality of computing  
4 apparatuses; said cooperating being effected by said one control unit effecting said  
5 recovery operation; said at least one control program backing up said one control unit;  
6 said at least one control program effecting said recovery operation when said one  
7 control unit cannot effect said recovery operation

1 14. A system for effecting recovery of a network as recited in Claim 12 wherein said at  
2 least one control program is a plurality of control programs; each said respective  
3 computing apparatus hosting at least one respective control program of said plurality  
4 of control programs.

1 15. A system for effecting recovery of a network as recited in Claim 13 wherein said at  
2 least one control program is a plurality of control programs; each said respective

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3 computing apparatus hosting at least one respective control program of said plurality  
4 of control programs.

1 16. A method for effecting recovery of a network; said network including a plurality of  
2 computing apparatuses; each respective computing apparatus of said plurality of  
3 computing apparatuses hosting at least one respective service; the method comprising  
4 the steps of:

5 (a) in no particular order:

6 (1) providing at least one control unit; said at least one control unit being  
7 substantially embodied in hardware; said at least one control unit being  
8 coupled with each said respective computing apparatus; and

9 (2) providing at least one control program; each respective control program of  
10 said at least one control program being substantially embodied in software;  
11 said at least one control program being distributed among at least one of said  
12 respective computing apparatuses;

13 (b) operating the system to respond to a respective said computing apparatus  
14 becoming an inoperative computing apparatus by effecting a recovery operation;  
15 said recovery operation including the steps of:

16 (1) distributing said at least one service hosted by said inoperative computing  
17 apparatus as at least one distributed service among operating said respective  
18 computing apparatuses; and

19 (2) after said inoperative computing apparatus becomes operative, returning said  
20 at least one distributed service to said previously inoperative computing  
21 apparatus; said at least one control unit and said at least one control program  
22 cooperating to effect said recovery operation.

1 17. A method for effecting recovery of a network as recited in Claim 16 wherein said  
2 cooperating is effected by said at least one control unit effecting said recovery  
3 operation; said at least one control program backing up said at least one control unit;

1 18. A method for effecting recovery of a network as recited in Claim 16 wherein said at  
2 least one control unit is one control unit; said one control unit being a substantially  
3 autonomous computing unit in communication with said plurality of computing  
4 apparatuses; said cooperating being effected by said one control unit effecting said  
5 recovery operation; said at least one control program backing up said one control unit;  
6 said at least one control program effecting said recovery operation when said one  
7 control unit cannot effect said recovery operation

1 19. A method for effecting recovery of a network as recited in Claim 17 wherein said at  
2 least one control program is a plurality of control programs; each said respective  
3 computing apparatus hosting at least one respective control program of said plurality  
4 of control programs.

1 20. A system for effecting recovery of a network as recited in Claim 18 wherein said at  
2 least one control program is a plurality of control programs; each said respective  
3 computing apparatus hosting at least one respective control program of said plurality  
4 of control programs.

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